Remarks

For the Claims:

Applicants originally submitted claims 1-31. In a first Office Action, mailed 3 May 2007, claims 1, 3, 4, 7-10, 14-23, and 27-29 were rejected, and claims 2, 5, 6, 11-13, 24-26, 30, and 31 were objected to as being dependent upon rejected base claims. In an Amendment, dated 2 August 2007, Applicants canceled claims 2, 16-23, and 27-31, amended claims 1, 5, 6, 11, 12, 24, 25, and 26, and retained claims 3, 4, 7-10, and 13-15 as originally submitted. In particular, claim 1 was amended to include the limitations of objected to claim 2. In addition, each of objected to claims 5, 6, 11, 12, 24, and 25 were amended to independent form as suggested in the first Office Action. Following submission of the 2 August 2007 Amendment, claims 1, 3-15, and 24-26 were pending in this application.

In response to the Amendment, a second, non-final Office Action, mailed 16 October 2007, rejected all claims i.e., claims 1, 3-15, and 24-26. In a Response, dated 2 January 2008, claims 1, 3-15, and 24-26 were retained as originally or previously submitted and arguments were presented regarding the impropriety of combining the primary references.

A third, non-final Office Action, mailed 1 April 2008, responding to the 2 January 2008 Response, again rejected all claims, i.e., claims 1, 3-15, and 24-26. In an Amendment, dated 27 June 2008, Applicants amended claims 11, 12, and 24 and retained claims 1, 3-10, 13-15, 25, and 26 as originally or previously submitted. In this fourth, non-final Office Action again rejects all pending claims, i.e., claims 1, 3-15, and 24-26. Applicants retain claims 1, 3-15, and 24-26 as originally or

previously submitted. Applicants respectfully request reconsideration in view of the following remarks.

This fourth, non-Final Office Action indicates that Applicants' arguments with respect to claims 1, 3-15, and 24-26 have been considered but are moot in view of new ground(s) of rejection.

The Manual of Patent Examining Procedure (MPEP) provides significant guidance to Examiners for prosecuting patent applications. Particularly pertinent in this case, the MPEP, §707.07(g), states that "Piecemeal examination should be avoided as much as possible. The examiner ordinarily should reject each claim on all valid grounds available, avoiding, however, undue multiplication of references."

In addition, the MPEP, §2106, II, states "It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the initial review of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, USPTO personnel should state all reasons and bases for rejecting claims in the first Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever practicable, USPTO personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application."

Accordingly, a first Office Action on the merits should ordinarily identify every issue that stands between Applicant and allowance of the application. This provides Applicant with the

opportunity to respond to each issue so that if each issue is successfully rebutted or otherwise addressed, the application would be in a condition for allowance. The first Office Action in this case rejected some claims and objected to the remaining claims. The first Office Action indicated that the objected to claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant responded to the first Office Action by providing an Amendment that canceled the rejected subject matter and retained the objected to subject matter. Thus, prosecution of this application should have ended with a subsequent Notice of Allowance. Instead, a second search was conducted and additional prior art was cited. The second, non-final Office Action in this case rejected the subject matter of all claims that were previously objected to. Applicant subsequently provided a written Response that retained the claims as originally or previously submitted and that presented arguments regarding the impropriety of combining the primary references.

The third, non-final Office Action in this case apparently found Applicants' arguments persuasive regarding the impropriety of combining the primary references. Accordingly, prosecution of this application should have ended with a subsequent Notice of Allowance. Instead, a third search was conducted and additional prior art was cited. Applicant responded to the third Office Action by providing an Amendment that returned claims 11 and 12 to their form as originally filed and corrected an extraneous word in claim 24, but left all other remaining claims unchanged from the first Amendment.

This fourth, non-final Office Action maintains the rejection of some claims, but now includes new grounds of rejection. These

new grounds include 1) a rejection of claims 10-14 under 35 U.S.C. §112, first paragraph, and 2) a rejection of claims 11, 24, and 26 under 35 U.S.C. §103(a). Regarding the first new grounds of rejection, claim 10 remains unchanged since it was filed. Consequently, the limitations of claim 10 were not fully examined since this application was first brought up for examination. Regarding the second new grounds of rejection, a fourth search was conducted and additional prior art was again cited.

The prosecution history in this case reflects a failure to identify every issue in prior Office Actions, therefore failing to allow Applicant an opportunity to respond to each issue in an efficient manner. The rejection of originally filed claim 10 under 35 U.S.C. §112, first paragraph, at a fourth Office Action underscores this failure. Such an alleged issue should have been set forth at the first Office Action. Furthermore, as discussed in prior the prior responses and as discussed below in this Response, alleged deficiencies that serve as a basis for rejection have not been clearly explained. Nor do the prior Office Actions and this fourth non-final Office Action indicate how rejections may be overcome and/or how problems may be resolved. This prosecution history has led to an impression of a biased examination resulting in multiple attempts to dissuade Applicants from obtaining a patent by creating new rejections through piecemeal and protracted examination after the previous rejections have been overcome. Unfortunately, such a situation is counter to the purpose of promoting innovation and invention disclosure through a patent grant. Applicants respectfully request that further conduct in this manner be avoided and that the guidelines of at least MPEP §707.07(g) and MPEP §2106, II, be followed.

Claim Rejections:

This Office Action rejects claims 10-14 under 35 U.S.C. §112, second paragraph, as allegedly failing to comply with the enablement requirement. Regarding the subject matter of claim 10, lines 9-10, reciting "reconstructing said each video frame at said decoder from said received packets in response to said packet identifier," the Office Action indicates that the Examiner is unable to find any support for this limitation in the specification. The Office Action concludes, therefore, that the claim fails to comply with the enablement requirement.

Applicants respectfully disagree with the Office Action conclusion that claim 10 fails to comply with the enablement requirement. A detailed discussion of an encoding process 150 is provided in the specification beginning at page 19, paragraph [0074], and illustrated in FIG. 7. The encoding process effectively divides and compresses a received video stream for transmission over multiple wireless channels, such that lost coefficients and motion data can be interpolated at a decoder section of a receiving IMUX system.

A task 180 of the encoding process 150 packetizes the coded quadtrees for transmission via the wireless communication network (i.e., claim 10 feature of "assembling said coded quadtree coefficient groups into packets"). Figure 14 shows a graphic representation of a packet 222 of transform coefficients 212 in the form of a coded quadtree block 224 packetized through the execution of task 180. At a task 182 of the encoding process 150, a header is appended to the packet 222. The header includes a video packet identifier (VPH ID) 228 (i.e., claim 10 feature of "attaching a packet identifier to each of said packets prior to said distributing operation"). A task 184 assigns each packet

222 to a channel and a channel identifier 230 is appended to the packet 222. Video packets 135 are subsequently transmitted from the assigned channels via the described transmit process 256. The video packets 135 may be packets 222 or packets 244 (paragraph [0122]).

A detailed discussion of a receive process 290 is provided in the specification beginning at page 37, paragraph [0132], and illustrated in FIG. 21. In particular, receive video packets 139 are received at a task 292. The receive video packets 139 may be packets 222 or packets 244. A task 304 of the receive process 290 forwards the received packets 139 to the decoder (i.e., claim 10 feature of "receiving said packets at a decoder via said multiple channels"). A decoding process is described in the specification beginning on page 39, paragraph [0139]. The decoding process includes a parsing process 310 that parses the received video packets 139 into a received frames buffer 140 and a decoding process 360 that subsequently decodes the received data to reconstruct a received video frame 144. Thus, the received video frames 144 are a reconstruction of the transmitted video frames 116.

In accordance with the parsing process 310, video packets 139 are received at the input interface 138 of the parser (task 312, paragraph [0140]). The input interface 138 parses the data from the video packet 139 and inserts the data into a data packet structure 318. Since the receive video packets 139 may be packets 222 or packets 244, and packets 222 and 244 include the packet identifier 228, the data inserted into the data packet structure 318 includes this packet identifier 228.

The packet identifier 228 is utilized when reconstructing the received video frame 144. In particular, as discussed in connection with Applicants' decoding process 360, a query task

366 determines whether there is an unsuccessful transmission of video packets 139 that include packets 222 (paragraph [0166]). When an unsuccessful transmission of packets 222 is detected, a task 368 is performed to perform an estimation from adjacent data (paragraph [0167]). An error resilience scheme 372 is performed through the execution of task 368. The error resilience scheme 372 relies on knowledge of the loss pattern. In particular, the packet identifier 228 enables identification of neighboring waveform coefficients for reconstruction (paragraph [0168]). Packets 244 also include packet identifier 228. Thus, through the execution of task 378 lost motion vectors can be estimated from surrounding motion vectors. Inclusion of the packet identifier 228 in the packets 244 can enable identification of surrounding motion vectors.

The teachings provided in Applicants' specification provide support for the limitation in claim 10 of "reconstructing said each video frame at said decoder from said received packets in response to said packet identifier." Accordingly, Applicants believe that claim 10, as originally filed, complies with the enable requirement. Claims 11-14 depend directly or indirectly from claim 10. Accordingly, claims 11-14 also comply with the enable requirement. Applicants respectfully request withdrawal of the rejection of claims 10-14 under 35 U.S.C. §112, first paragraph. However, under the principles of compact prosecution, should the Examiner maintain the rejection of claims 10-14 under 35 U.S.C. §112, first paragraph, Applicants respectfully request that the Examiner clearly explain the alleged claim deficiencies and indicate how these alleged deficiencies can be resolved.

Confusingly, on page 22 of this fourth, non-final Office Action, claims 12 and 13 are objected to as being dependent upon a rejected base claim, but indicates they would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims and to overcome the "35 U.S.C. §112, 2nd paragraph rejection." Since a 35 U.S.C. §112, 2nd paragraph, rejection was not set forth in this fourth, non-final Office Action, this statement is unclear. Applicants presume that the reference to 35 U.S.C. §112, 2nd paragraph, should have been to 35 U.S.C. §112, 1st paragraph. Claim 12 depends from claim 10 and claim 13 depends from claim 12. As discussed in detail above, claim 10 (and claims 12-13 by reason of dependency) complies with the enablement requirement. Consequently, claims 12 and 13 are not being rewritten in independent form.

This Office Action rejects claims 1, 3-7, 9, 10, 14, and 25 under 35 U.S.C. 103(a) as being unpatentable over Irvine et al., U.S. Publication No. 2002/0191695 (hereinafter Irvine), in view of Lane et al., U.S. Patent No. 5,933,567 (hereinafter Lane). Irvine teaches a method of interframe coding in a system for encoding digital video. Lane teaches of a method and apparatus for controlling the position of the heads of a digital video tape recorder during trick play operation and for recording digital data on a tape.

The rejection of independent claim 1 in view of Irvine and Lane remains largely unchanged from the previous Office Action. That is, the Office Action alleges that Irvine discloses the subject matter of claim 1 except for specifically teaching a method of facilitating transmission of video frames of multiple channels in a communication system and distributing the coded quadtree coefficient groups among the multiple channels for transmission. The Office Action further alleges that Lane teaches a method of facilitating transmission of video frames of multiple channels in a communication system and distributing the coded quadtree coefficient groups among the multiple channels for transmission.

The previous Office Action failed to discuss the subject matter recited in claim 1 of "said distributing operation including assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple channels." In the 27 June 2008 Amendment, Applicants argued that a theoretical combination of Irvine and Lane fails to teach or suggest the limitation of independent claim 1 of the distributing operating including "assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple channels."

This fourth, non-final Office Action now apparently alleges that Lane teaches the distributing operation of claim 1 including "assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple channels." The Office Action cites passages in Lane at col. 20, lines 23-30, and col. 22, lines 62-67, as the alleged teaching.

The Office Action cites passages in the Irvine reference at paragraph [0028], lines 1-8, and paragraph [0029], lines 1-20 in association with Applicants' feature of claim 1 of distributing said coded quadtree coefficient groups. As discussed in the 2 January 2008 Response, the 27 June 2008 Amendment, and repeated herein, regarding the distributing feature of claim 1, the cited passages within Irvine merely disclose transmitting or conveying a compressed video signal through a physical medium, through a transmission channel. Accordingly, the citation of these passages in the Irvine reference is not relevant to the claimed distributing feature and should not be repeated in any subsequent Office Actions without a clear explanation as to their relevance.

Applicants respectfully assert that false characterizations of what the prior art teaches led to an obviousness rejection of the subject matter of claim 1. Evidence of making an obviousness rejection of Applicants' features of independent claim 1 based upon false characterizations is strong, especially in connection with the Lane reference. This fourth non-final Office Action points to passages at col. 20, lines 23-30, and col. 22, lines 62-67, in the Lane reference as an alleged teaching of Applicants' distributing operation.

In the passage at col. 20, lines 23-30, cited in this fourth, non-final Office Action, Lane discloses that in video transmission systems, such as the proposed AD HDTV system, which transmit portions of the video data over multiple data channels, it is necessary to provide a method of separating the video data stream for transmission over separate data channels based on, e.g. prioritizing the video data. The video data can then be separated according to its relative priority for transmission over the various data channels based on the data's assigned priority level relative to the other data in the stream.

In the passage at col. 22, lines 62-67, cited in this fourth, non-final Office Action, Lane discloses that when multiple channels are being used to transmit the video/audio transport data packets, the transport encoder's video transport packetizer 106 performs the operation of separating the video packets into multiple data streams for transmission via separate channels using the transport channel prioritizer 105.

False characterizations of the prior art provide persuasive evidence of an impermissible use of hindsight reconstruction in making an obviousness rejection. As stated in Ingersoll-Rand Co. v. Brunner & Lay, Inc., 1177 USPQ 112, 116 (5th Cir. 1973):

> Moreover, it is not realistic to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art (emphasis supplied).

Furthermore, as stated in In re Lunsford, 148 USPQ 716, 719-720 (CCPA 1966):

> In deciding the question of obviousness under 35 U.S.C. §103, it is not proper to pick and choose from any one reference only so much as it will support a position, to the exclusion of other parts necessary to the full appreciation of what such reference fully suggests to one of ordinary skill in the art (emphasis supplied).

The Lane prioritization scheme is not a teaching, suggestion, or implication of data packets being assigned such that contiguous portions of the frame data will be transmitted over different ones of the multiple channels, as recited in claim 1. That is, the passage at col. 20, lines 23-30 may disclose separating video data stream for transmission over separate channels based on prioritizing the video data and the passage at col. 22, lines 62-67, may disclose distributing video packets among multiple channels for transmission. However, the cited passages in Lane are silent as to the claimed feature of data being assigned to the multiple channels such that contiguous portions of the frame data will be transmitted over different ones of the multiple channels.

The prioritization technique of Lane is not concerned with enabling the contiguous portions of the frame data to be transmitted over different channels, as recited in claim 1. Rather, Lane provides an example in which two channels may be a high priority and a standard priority transmission channel (col. 22, lines 30-49). The video transport packetizer 106 divides the

video packets into different data streams based on the priority level assigned by the prioritizer 104 to the data contained in each video packet. Prioritization in the Lane methodology is thus optimized to assign data to priority levels based on the data's utility for generating a recognizable image or portion of an image during trick play operation (col. 24, lines 44-47). Consequently only Applicants, and not the Lane reference, teach what is claimed. This mischaracterization of what the prior art fairly teaches led to an improper 103 rejection of claim 1.

Accordingly, even if the teachings of Irvine and Lane were somehow combined, the theoretical combination would fail to produce the invention of claim 1. At best, a theoretical combination of the Irvine digital video encoding methodology and the Lane transmission of separate video packets via separate channels might result in the prioritized transmission of encoded video via separate channels. However, the theoretical combination falls far short of providing a teaching or suggestion for the limitation of independent claim 1 of the distributing operating including "assigning said coded quadtree coefficient groups to said multiple channels such that contiguous portions of said frame data will be transmitted over different ones of said multiple channels" despite Office Action implication to the contrary.

Evidence indicating that hindsight has been used in making an obviousness rejection is well-established grounds for reversing obviousness rejections. As stated in W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert denied, 469 U.S. 851 (1984):

> To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight

syndrome wherein that which only the inventor taught is used against its teacher.

It is only Applicants' specification that teaches the distributed assignment of the coded quadtree coefficient groups among the multiple channels such that the contiguous portions of the frame data will be transmitted over different ones of the multiple channels. This feature of claim 1 ensures that contiguous portions of the error frame (representative of the frame data) will be transmitted over different channels (Applicants' specification at paragraph [0109]). This assigned distribution facilitates the estimation of wavelet coefficients during decoding that were lost or corrupted in transmission. However, teachings provided only by Applicants cannot be used against Applicants.

A theoretical combination of various features of Irvine and Lane fails to teach or suggest Applicants' claimed subject matter. Indeed, full and fair consideration of the Irvine and Lane references reveals the impropriety of the obviousness rejection set forth in the Office Action. The obviousness rejection is improper because the Lane teaching of separating video packets into multiple data streams in accordance with a prioritization scheme for transmission via separate channels is not a teaching or suggestion of the assigning feature of independent claim 1. Nor do the teachings provided by Irvine and Lane provide the requisite suggestion or motivation for modifying a theoretical combination of Irvine and Lane to something more closely resembling Applicants' invention of claim 1. Rather, it is only Applicants who teach that which is claimed. Said another way, it is only through hindsight gained by understanding Applicants' specification and claims that one would arrive at the distributing operating including "assigning said coded quadtree coefficient groups to said multiple channels such that contiguous

portions of said frame data will be transmitted over different ones of said multiple channels," as recited in claim 1. However, an attempt to deprecate the subject matter of claim 1 using that which only Applicants teach amounts to the prohibited use of hindsight.

For at least the reasons set forth above, the invention of claim 1 is not rendered obvious in view of a combination of Irvine and Lane. As such, claim 1 is believed to be allowable. Claims 3, 4, and 7-15 depend directly or indirectly from claim 1 and are believed to be allowable by reason of dependency.

Independent claim 5 includes the limitations of distributing said coded quadtree coefficient groups and said coded motion vector blocks among said multiple channels for transmission, and assigning said coded motion vector blocks to said multiple channels such that adjacent portions of said motion vectors will be transmitted over different ones of said multiple channels. As taught only by the Applicants, separately coding blocks of motion vectors and the distributed assignment of blocks of motion vectors ensures that adjacent motion vectors will be transmitted over different channels (Applicants' specification at paragraph [0119]). This assigned distribution facilitates the estimation of motion vectors during decoding that were lost or corrupted in transmission.

Claim 5 is believed to be allowable for reasons similar to those set forth in connection with claim 1. That is, the Lane reference may provide support for the Office Action allegation of distributing video packets among multiple channels for transmission. However, the prioritization scheme of Lane is neither a teaching nor a suggestion of assigning video packets (coded motion vector blocks, as recited in claim 5) such that adjacent portions of the motion vectors will be transmitted over

different ones of the multiple channels. Since the prior art does not teach or suggest all of the claimed features, a combination of Irvine and Lane cannot render obvious that which is neither taught nor suggested by the prior art. Accordingly, claim 5 is believed to be allowable over the cited prior art for at least the aforementioned reasons.

Independent claim 6 includes distributing the coded quadtree coefficient groups and the coded motion vector blocks among the multiple channels for transmission, wherein the coded quadtree coefficient groups are distributed among the multiple channels independent from the coded motion vector blocks. The distribution of coded quadtree coefficient groups among the multiple channels independent from the coded motion vector blocks of claim 6 yields an error resilient source video coding scheme that generates multiple encoded bitstreams of the source video that can be decoded independently with the aim of providing a reasonable reconstruction quality of the source video when only one bitstream (i.e., one description) is received, and improved quality when multiple bitstreams (i.e., multiple descriptions) are available (Applicants' specification at paragraph [0069]).

Claim 6 is believed to be allowable for reasons similar to those set forth in connection with claims 1 and 5. That is, the Lane reference may provide support for the Office Action allegation of distributing video packets among multiple channels for transmission. However, the prioritization scheme of Lane is neither a teaching nor a suggestion of distributing coded quadtree coefficient groups independent from the coded motion vector blocks among the multiple channels for transmission. Since the prior art does not teach or suggest all of the claimed features, a combination of Irvine and Lane cannot render obvious that which is neither taught nor suggested by the prior art.

Accordingly, claim 6 is believed to be allowable over the cited prior art for at least the aforementioned reasons.

Independent claim 25 includes limitations directed toward an output interface for receiving coded quadtree coefficient groups, the output interface assigning the coded quadtree coefficient groups to the multiple channels in a communication network such that adjacent portions of the frame data will be transmitted over different ones of the multiple channels, and an input interface for receiving transmitted first packets of coded quadtree coefficient groups and second packets of motion vector blocks from a second system via the multiple channels.

Independent claim 25 is believed to be allowable over the prior art for at least the reasons set forth above. That is, nothing in either of Irvine or Lane teaches or suggests the feature of an output interface assigning coded quadtree coefficient groups to the multiple channels such that adjacent portions of the frame data will be transmitted over different ones of the multiple channels. Since neither Irvine nor Lane teaches or suggests all of the claim limitations, a combination of Irvine and Lane cannot teach or suggest the same. Consequently, the theoretical combination fails to produce the invention of claim 25, providing evidence of the impropriety of the 103 rejection of claim 25.

This Office Action rejects claim 8 as being unpatentable over Irvine, in view of Wu et al. as applied to claim 1 above, and further in view of Jacquin et al., U.S. Patent No. 6,625,217 (hereinafter Jacquin).

The third, non-Final Office Action also presented a rejection of claim 8 in view of a combination of Irvine, Wu, and Jacquin. When making the rejection of claim 1 in the third Office Action,

the formerly cited Wu reference was replaced with the Lane reference. Accordingly, in the 27 June 2008 Amendment, Applicants presumed that the Office Action rejection of claim 8 should have indicated that claim 8 is unpatentable over Irvine, in view of Lane as applied to claim 1 above, and further in view of Jacquin et al., U.S. Patent No. 6,625,217 (hereinafter Jacquin). Thus, claim 8 was discussed in the 27 June 2007 Amendment in the context of its rejection in view of a combination of Irvine, Lane, and Jacquin.

In this fourth, non-Final Office Action, the rejection of claim 8 that was presented in the third, non-Final Office Action is simply repeated. Furthermore, there is no discussion in this fourth Office Action as to the alleged rejection and Applicants' discussion. Without more, the rejection of claim 8 is improper because an improper citation of Wu was made in connection with claim 8.

The Office Action alleges that Irvine teaches the transforming operation of claim 8, but fails to specifically teach the coding operation comprises utilizing a zerotree wavelet coding algorithm. The Office Action further alleges that Jacquin teaches the coding operation utilizing a zerotree wavelet coding algorithm and concludes that it would have been obvious to use a zerotree wavelet coding algorithm taught by Wu et al. in the video transmission of the system above. As mentioned in the 2 January 2008 Response and the 27 June 2008 Amendment, Applicants are unsure what is meant by the above allegation since the Office Action cites both Jacquin and Wu as including a teaching of utilizing a zerotree wavelet coding algorithm. This fourth, non-final Office Action fails to provide clear explanation of this rejection. Nor does this fourth Office Action provide any line of reasoning regarding Applicants' discussion of claim 8 in the previously filed responses. As such, Applicants cannot

reasonably refute issues that are absent in the Office Action. Nevertheless, claim 8 depends from independent claim 1 and is believed allowable over the prior art for at least the reasons set forth in connection with claim 1.

This Office Action rejects claim 15 under 35 U.S.C. §103(a) as being unpatentable over Irvine in view of Lane, as applied to claim 1 above, and further in view of Wu et al, U.S. Patent No. 7,016,337.

Claim 15 includes limitations directed toward the communication system being a satellite-based communication network and the multiple channels are wireless voice channels managed by the satellite-based communication network. In support of the rejection of claim 15, the Office Action alleges that a combination of Irvine and Lane disclose the subject matter of claim 1, except for specifically teaching wherein the communication system is a satellite-based communication network. However, the Office Action alleges that Wu teaches the features of claim 15 and concludes that it would be obvious to establish transmission links using the satellite and wireless channels as taught by Wu to provide connection and communication links.

The Office Action cites a passage at column 1, lines 20-27, and FIG. 5A in support of this line of reasoning. The cited passage from Wu discloses that there are a variety of different communication channels for transmitting or transporting video data. Wu further mentions that communication channels such as digital subscriber loop access networks, ATM networks, satellite, or wireless digital transmission facilities are well known. Wu further defines a communication channel broadly as being a connection facility to convey properly formatted digital information from one point to another.

The general disclosure of satellite networks and satellite communication channels does not specify or otherwise imply that these communications channels are voice channels. Nevertheless, claim 15 depends from claim 1 and is believed to be allowable at least for the reasons set forth in connection with claim 1.

Claims 11, 24, and 26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Irvine in view of Lane as applied to claim 10 above and further in view of Henry et al., U.S. Patent Number 5,436,664 (hereinafter Henry). Henry teaches of a method for masking transmission errors of MPEG compressed pictures.

Claim 11 depends from claim 10, which depends from claim 1. Accordingly, claim 11 is allowable for the reasons set forth in connection with claim 1.

Claim 11 recites features in which the reconstructing operation includes determining an unsuccessful transmission of one of the packets and forming an estimate of the transform coefficients of the one of the packets in response to adjacent ones of the transform coefficients of others of the packets received via others of the multiple channels. Thus, the subject matter of claim 11 is directed toward reconstruction of video frames following packet transmission.

This fourth, non-final Office Action indicates that Irvine and Lane teach all the features of the subject matter of claim 11 except for specifically teaching an unsuccessful transmission of one of said packets as recited in claim 1. The Office Action cites an element within FIG. 1 and passages in the Irvine reference that allegedly teach Applicants' claimed estimating operation of claim 11. In particular, the Office Action cites the block size assignment element 108 of FIG. 1, paragraph [0008], lines 1-11, paragraph [0020], lines 1-8, and paragraph

[0025], lines 1-18 as the alleged disclosure of Applicants' reconstructing operation that includes the determining and forming operations.

Applicants respectfully disagree with these Office Action allegations. As specified in Irvine, the encoder 102 includes the block size assignment element 108, which performs block size assignment in preparation for video compression so that the compressed signal may be transmitted through a transmission channel (page 3, paragraphs [0028] and [0029]. Since the block size assignment element 108 is part of the Irvine encoder, and it prepares a block for video compression prior to transmission, it simply cannot reconstruct a video frame at the decoder from received packets as recited in claim 10, from which claim 11 depends. Since Irvine is silent as to the claimed feature of reconstructing each video frame at a decoder from received packets, it follows that it is also silent as to the claimed feature of the reconstructing operation that includes forming an estimate of the transform coefficients of the one of the packets in response to adjacent ones of the transform coefficients of others of the packets, despite Office Action allegations to the contrary.

The Office Action does acknowledge that Irvine and Lane fail to teach determining an unsuccessful transmission of one of said packets, as recited in claim 11. However, this fourth, non-final Office Action now points to a passage in Henry at col. 2, lines 39-50 as providing the alleged teaching. An alleged teaching of detecting error transmissions falls short of a teaching or suggestions of Applicants' invention of claim 11 because, as discussed above, the prior art fails to teach Applicants' reconstructing operation that includes forming an estimate of the transform coefficients of the one of the packets in response to

adjacent ones of the transform coefficients of others of the packets.

Accordingly, Applicants respectfully submit that even if the teachings of Irvine, Lane, and Henry were somehow combined, the resulting combination would fail to render obvious Applicants' invention of claim 11 because the prior art does not teach or suggest all of the claim limitations. Consequently, the theoretical combination fails to produce the invention of claim 11, providing evidence of the impropriety of the 103 rejection of claim 11.

Independent claim 24 includes limitations directed toward a system that includes an output interface for receiving coded quadtree coefficient groups, the output interface assigning the coded quadtree coefficient groups to the multiple channels in a communication network such that adjacent portions of the frame data will be transmitted over different ones of the multiple channels and an input interface for receiving transmitted packets of coded quadtree coefficient groups from a second system via the multiple channels. Independent claim 24 further includes the limitation of an estimator in communication with a decoder, wherein upon determination of an unsuccessful transmission of one of the packets, the estimator forms an estimate of the transmitted coded quadtree coefficient groups of the one of the packets in response to adjacent ones of the transmitted quadtree coefficient groups of others of the packets received via the multiple channels.

Independent claim 24 is believed allowable for at least reasons similar to those set forth in connection with independent claim 1. That is, neither Irvine nor Lane teach or suggest the feature of an output interface assigning coded quadtree coefficient groups to the multiple channels such that adjacent

portions of the frame data will be transmitted over different ones of the multiple channels. Henry is merely provided as an alleged teaching of detecting transmission errors. Consequently, a theoretical combination Irvine, Lane, and Henry fails to produce the invention of claim 24, providing evidence of the impropriety of the 103 rejection of claim 24.

In addition, independent claim 24 is believed allowable for reasons similar to those set forth in connection with claim 11. That is, Irvine fails to teach or suggest the feature of an estimator in communication with said decoder, wherein upon determination of an unsuccessful transmission of one of said packets, said estimator forms an estimate of said transmitted coded quadtree coefficient groups of said one of said packets in response to adjacent ones of said transmitted quadtree coefficient groups of others of said packets. Indeed, the last paragraph on page 19 of the Office Action concurs with this line of reasoning. However, with regard to claim 24, the Office Action alleges that Lane teaches the allegedly missing estimator.

Regarding claim 24, the Office Action acknowledges that Irvine does not teach an estimator in communication with a decoder, the estimator forming an estimate of the transmitted coded quadtree coefficient groups of the one of the packets in response to adjacent ones of the transmitted coefficient groups of others of the packets received via the multiple channels. However, in connection with the rejection of claim 11, which contains similar features, the Office Action alleges that Irvine does teach of forming an estimate of the transform coefficients of the one of the packets in response to adjacent ones of the transform coefficients of others of the packets received via others of the multiple channels. Thus, there is unclear explanation and significant inconsistency in claim rejections between claims that have similar features. This unclear

explanation and inconsistency makes it difficult to provide a cohesive and succinct response to the Office Action.

Nevertheless, the Lane reference is again reviewed for the alleged teaching. The Office Action cites passages in Lane at col. 7, lines 1-27, col. 19, lines 59-67, and col. 20, lines 1-27, as an alleged teaching of Applicants' claimed estimator. Applicants contend that these cited passages in Lane are silent as to the claimed features of an estimator in communication with a decoder, wherein upon determination of an unsuccessful transmission of one of the packets, the estimator forms an estimate of the transmitted coded quadtree coefficient groups of the one of the packets in response to adjacent ones of the transmitted coefficient groups of others of the packets received via the multiple channels. Instead, these cited passages are directed toward encoding techniques prior to transmission, rather than reconstruction operations following transmission. Further, Applicants have carefully reviewed the Lane reference and can find no teaching of these claimed features.

For at least the reasons set forth above, Applicants respectfully submit that even if the teachings of Irvine and Lane were somehow combined, the resulting combination would fail to render obvious Applicants' estimator of claim 24 because the prior art does not teach or suggest all of the claim limitations. Furthermore, Henry is merely provided as an alleged teaching of detecting transmission errors. Consequently, a theoretical combination Irvine, Lane, and Henry fails to produce the invention of claim 24, providing further evidence of the impropriety of the 103 rejection of claim 24.

Claim 26 depends from claim 25 and is allowable by reason of dependency. In addition, claim 26 is allowable for the reasons similar to those set forth in connection with claims 11 and 24.

Claim 26 recites the feature of a system that includes an estimator in communication with the decoder, wherein upon determination of an unsuccessful transmission of one of the second packets (of motion vector blocks, claim 25), the estimator forms an estimate of the motion vector blocks of the one of the second packets from an average of surrounding ones of the motion vectors of others of the second packets received via the multiple channels.

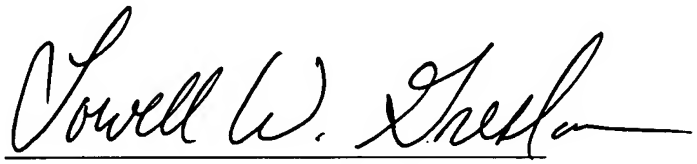
The Office Action acknowledges that Irvine does not teach an estimator, as recited in claim 26. In supporting the rejection of claim 26, the Office Action alleges that Lane teaches an estimator, and cites the passages at col. 7, lines 1-27, col. 19, lines 59-67, and col. 20, lines 1-6, as evidence of the alleged teaching. These passages are the same as those cited in connection with the rejection of claim 24. However, as discussed above in connection with claim 24, these passages are silent as to the claimed estimator. Instead, these cited passages are directed toward encoding techniques.

Consequently, even if the teachings of Irvine and Lane were somehow combined, the resulting combination would fail to render obvious Applicants' invention of claim 26 because the prior art does not teach or suggest all of the claim limitations. Moreover, the Henry reference is merely provided as an alleged teaching of detecting transmission errors. Consequently, a theoretical combination Irvine, Lane, and Henry fails to produce the invention of claim 26, providing evidence of the impropriety of the 103 rejection of claim 26.

For the reasons set forth above, claims 1, 3-15, and 24-26 remain in the application as originally or previously submitted and are believed to be allowable.

Applicants believe that the foregoing remarks are fully responsive to the rejections recited in the 7 October 2008 Office Action and that the present application is now in a condition for allowance. Accordingly, reconsideration of the present application is respectfully requested.

Respectfully submitted,



Lowell W. Gresham
Attorney for Applicants
Reg. No. 31,165

Lowell W. Gresham
5727 North Seventh Street
Suite 409
Phoenix, AZ 85014
(602) 274-6996